Fanning Island Expedition—1970[1]

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IT IS AN EXCITING EXPERIENCE to lead 26 faculty and students, from five separate departments, on a expedition into an essentially unknown area. We found we could work together, talk together, and learn together from the environment and from each other. The following reports attest to the success of our efforts.

The expedition sailed for Fanning Island aboard the R.V. *Mahi* on December 28, 1969, arriving January 2, 1970. Three members joined us by plane on January 12, and four left us on January 13 the same way. We sailed for home on January 25, arriving in Honolulu on the 31st.

The work of the expedition was divided into two phases: a sea phase and an island phase. The sea phase (NSF grant GA-10890), conducted by E. D. Stroup and S. V. Smith, involved measurements in the South Equatorial Current and Undercurrent, and measurement of the contribution of detritus from Fanning Island to the open sea. The island phase (NSF grant GB-15581), involving most of the personnel, was largely aimed at the physical oceanography of the lagoon, biogeographical problems, and productivity studies.

Valuable support for all work was supplied by Ray Jeffcott, fixer of everything; Edith Chave and Gene Gilley, cooks; and Mike Aurnig, radioman. Phillip Palmer and John Fleetwood, managers of the Burns-Philp copra plantation provided invaluable assistance. Martin Vitousek supplied the plane. Philip Helfrich of the Hawaii Institute of Marine Biology lent us boats and equipment. The crew of the R.V. *Mahi* provided excellent support. Finally, W. R. Coops of the Research Corporation of the University of Hawaii cut through much red tape and got us supplied in the last few hectic weeks, when Hawaii was in the midst of a lengthy shipping strike and it was the Christmas season.

FANNING ISLAND

Fanning Island is a beautiful atoll in the Line Islands chain at 3°55' N, 159°23' W. The island was discovered in 1798 by the American whaler *Betsy,* under Captain Edmund Fanning, at which time the island was uninhabited. Emory (1934, 1939), however, reports inhabitation in the 16th century. Copra and guano were produced on the island on and off between 1848 and 1935 when it was purchased by Burns-Philp, Ltd. Since then the plantation has exported between 600 and 1,000 tons of dried copra per year.

British Cable and Wireless established a cable station on Fanning in 1902 to serve as a link between British Columbia and Suva. The most exciting incident ever to occur at Fanning was the attack by a German warship (under the French flag) in September 1914, during which the cables were cut and the batteries destroyed. The cable station was abandoned in 1963. In 1966 the University of Hawaii leased the station land and its 15 buildings from the Gilbert and Ellice Islands Colony. The University has since added a 2,500-foot airstrip on the Island.

Fanning Atoll is composed of three islands enclosing a shallow lagoon. It is about 12 miles long and 6 miles wide (Fig. 1). Although the island is inhabited by some 600 Gilbertese copra workers, there is very little influence of man on the waters of the island. There is no effluent from the copra operations, and relatively little fishing due to a constant threat of ciguatera poisoning. Because of the unspoiled nature of the environment, it is an ideal area for many types of studies.

Fanning Island and the other islands of the Line Islands chain—Palmyra, Washington, and Christmas—are of great importance biogeo-

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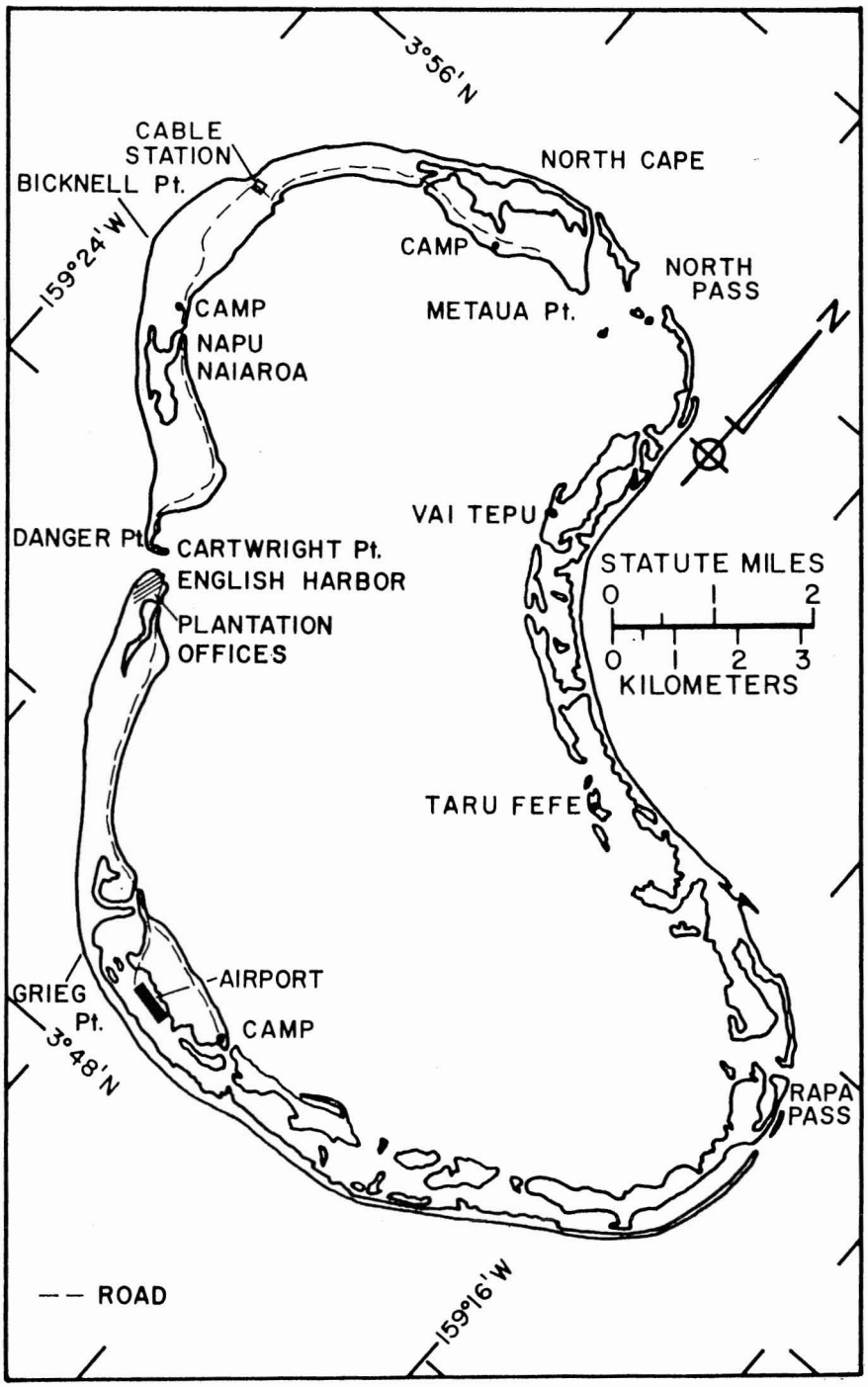

FIG. 1. Fanning Atoll.

graphically, being the easternmost equatorial islands in the Pacific.

All in all, Fanning is an ideal place for many types of studies. It is beautiful, isolated, yet easily accessible by air, and the cable station buildings are in good condition; electricity and fresh water, as well as cooking and sleeping facilities, are available.

A more extensive report on the expedition may be found in Report 70-23 of the Hawaii Institute of Geophysics. Included in this report are lists of decapod crustaceans and corals collected during the expedition. There is also a list of coccolithophorids found in the waters around Fanning Atoll and a list of birds observed on the island.

MEMBERS OF THE EXPEDITION

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———1939. Additional notes on the archaeology of Fanning Island. Honolulu, Occasional Papers of the Bernice P. Bishop Museum 15, pp. 179–189.